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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,660	09/27/2006	Minoru Ito	52433/863	1634

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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER	
YANG, JIE	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
03/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,660	ITO ET AL.	
	Examiner	Art Unit	
	JIE YANG	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/27/2006, 12/10/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-4 are pending in application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al (EP 1221493 A1, thereafter EP'493).

Regarding claims 1-4, EP'493 teaches a thick steel plate being excellent in CTOD (Crack Tip Opening Displacement-a toughness measurement method—noticed by the Examiner) characteristic in welding heat affected zone and having yield strength of 460MPa or more (Title of EP'493), which reads on the high-strength thick steel plate excellent in low temperature toughness at heat affected zone resulting from large heat input welding as recited in the instant claim. The composition comparison between the alloy of EP'493 and the alloy of the instant invention is listed in the following table. All of the composition ranges disclosed by EP'493 (abstract, claims 1-3, and paragraphs [0005]-[0007] of EP'493) overlap the composition

ranges as recited in the instant claim, which is a prima facie case of obviousness. SEE MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed compositions of C, Si, Mn, P, S, Al, N, Ni, Ti, Nb, and Fe (claim 1); optional adding Ca, Mg, REM (claim 2); adding B (claim 3); or optional adding Cr, Mo, V, and Cu (claim 4) from the composition disclosed by EP'493, because EP'493 discloses the same utility throughout the disclosed ranges.

Element	From instant Claim 1 (in wt%)	EP'493 (in wt%)	Overlapping range (in wt%)
C	0.03-0.14	0.04-0.14	0.04-0.14
Si	0.30 or less	0.4 or less	0.30 or less
Mn	0.8-2.0	1.0-2.0	1.0-2.0
P	0.02 or less	0.02 or less	0.02 or less
S	0.005 or less	0.001-0.005	0.001-0.005
Al	0.001-0.040	0.001-0.01	0.001-0.01
N	0.0010-0.0100	0.001-0.01	0.001-0.01
Ni	0.8-4.0	0.05-3.0 (optional)	0.8-3.0
Ti	0.005-0.030	0.005-0.03	0.005-0.03
Nb	0.003-0.040	0.005-0.05	0.005-0.04
Fe	Balance	Balance	Balance
	From instant claim 2		
	One or more of Ca: 0.0003-0.0050; Mg: 0.0003-0.0050; REM: 0.001-0.030	Mg:0.0003-0.005; One or more: Ca: 0.0005-0.005; REM: 0.0005-0.01	
	From instant claim 3		
B	0.0005-0.0050	0.0001-0.003	0.0005-0.003
	From instant claim 4		
	One or more of Cr: 0.1-0.5; Mo: 0.01-0.5; V: 0.005-0.10; Cu: 0.1-1.0	One or more of Cr: 0.05-0.5; Mo: 0.05-0.5; V: 0.005-0.05; Cu: 0.05-1.5	

Regarding the equation [1] in the instant claim 1, which depends on the alloy's composition. It is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D.357, 553 O.G.177; 57 USPQ 117, Taklatwalla v.Marburg. 620 O.G.685, 1949 C.D.77, and In re Pilling, 403 O.G.513, 44 F(2) 878, 1931 C.D.75. In the instant case, in the absence of evidence to the contrary, the selection of the proportions of elements: Ni, Mn, C, Cr, Mo, V, and Cu from EP'493 in order to meet the claimed equation would appear to require no more than routine investigation by those ordinary skilled in the art. In re Austin, et al., 149 USPQ 685, 688.

Still regarding claim 2, EP'493 teaches that a large number of ultrafine 0.01 to 0.1 μm particles of oxide composed of Mg and Al are dispersed in the steel (paragraph 0011] of EP'493), which reads on the oxide particles having an equivalent circle diameter of 0.005 to 0.5μm as recited in the instant claim. EP'493 teaches oxygen in the alloy is 0.001 to 0.005wt% (abstract, paragraph [0033] of EP'493), which is the same amount of oxygen as recited in the instant claim. EP'493 further teaches having particles of 0.01 to 0.5μm not less than 10,000 pieces/mm^2 containing oxide composed of Mg and Al (Abstract and

paragraph [0033] of EP'493), which reads on the 100/mm^2 of oxide particles containing as recited in the instant claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

JY